1: Jochelson E-5 (1900-01) 1908 RY4 Koryak RY4

133 Gishiga Bay, or, as they are locally called, the "larger and smaller waters," alternate regularly every two weeks.

The tides move with a rapidity of from one and a half to two and a half miles per hour, reaching a height of from four to eight metres. According to Slunin's data,[1] the tides of Penshina Bay have a still greater force and height. At the mouth of the Penshina River the tide reaches a velocity of seven miles per hour, and a height of from seven to ten metres. In the village of Kamenskoye I could see the tide crashing through the ice near the shore, and driving it into the mouth of the Penshina River. Enormous blocks of ice were piling up on each other, and wearing away the steep and rocky shore upon which the village is situated. At the mouth of the Tighil River the tide sometimes rises to a height of from five to seven metres. The height of the tide evidently depends upon the degree of exposure of a certain point. Near Okhotsk, for instance, where the sea is quite open, the tide does not rise higher than from two and a half to four metres.

Owing to the rolling surface of the country and to the absence of vast plains, the lakes in that region, in spite of the abundance of tundra spaces, are exceedingly limited in number as well as in size. In this respect the Koryak region differs strikingly from the vast plain of the Kolyma tundra, which contains thousands of lakes connected with each other by small rivulets. 361] These lakes abound in fish, rendering them attractive to the settled population of the northern Yakut as well as to the nomadic Yukaghir. The rapidity of the rivers, and the small number of lakes, may offer an explanation of the absence of a settled population in the interior of the Koryak territory.

• [136] Of the lakes of the Gishiga tundra of more or less considerable size, I mention here the Kharitonovskoye, Chukchee (Chukotskoye), Ankudin (Ankudinovskoye), and Paren (Parenskoye) Lakes. They are said to abound in pike and crucian-carp.[2] However, none of the inhabitants of that region ever think of catching them. Some small lakes in which rivers take their rise are situated in the mountain-valleys. The largest lakes in northern Kamchatka are Lake Pallan, from which Pallan River rises, and Great Lake, in the Parapol tundra, forming the source of a tributary of the Talovka River.

132 CLIMATE. — In the entire vast country of the Koryak, meteorological observations, so far, are carried on in one place only, the Gishiginsk settlement (and this regularly, only since 1901), it being a second-class meteorological branch station of the principal physical observatory of St. Petersburg. However, from the fragmentary observations of travellers, among them the observations of the author during his travels over the country, the conclusion may be drawn that the climate of the interior is somewhat more severe than it is on the strip of land near the shore where Gishiginsk is situated, and

[1] Slunin, I, p. 147.

[2] See Slunin, I, p. 560.

1: Jochelson E-5 (1900-01) 1908 RY4 Koryak RY4

The Koryak tribe, taken as a whole, is at present, after the Chukchee, the healthiest of all the tribes of northeastern Siberia. Of the influence of civilization upon them, I shall speak in the last chapter.

THE SENSES. — The Koryak discriminate between people of their own tribe and those of another by their smell. Thus, for instance, they cannot stand the smell of a Russian house or of a Tungus tent. And I can say for myself, that, after an intercourse of many years with various Siberian tribes, I was able to recognize the characteristic smell of a Yukaghir, a Tungus, or a Yakut.

Their vision is very keen. They are able to distinguish objects, and recognize persons, at a distance at which I can see nothing. Near-sightedness is rare among them; and one would hardly find among them an instance of looking through half-closed eyes, so characteristic of near-sighted people. I did, however, meet with two or three cases of near-sightedness. Such persons felt helpless, and did not go out hunting, nor did they drive the first sledge of a train.

The Koryak dislike salty and bitter things. While the Yukaghir, Yakut, and Tungus frequently came to us for salt, the Koryak seemed to feel no need for it. Those people to whom I gave mustard to taste expectorated for quite a while.

They are very fond of hard biscuit; but many of them prefer the fresh, slightly sour rye bread baked by the Russians of that locality, and which I carried with me in a frozen state in bags. Before meal-time they put the bread before the fire to thaw it out. The sour and pungent taste of putrid fish and decomposing meat seems to tickle the Koryak palate.

They are very fond of sweet things, and sugar is in the greatest demand among articles of exchange. They compare the taste of sugar to that of reindeer-fat, or to the taste of the marrow of the reindeer leg-bones.

The Koryak like fat in all forms; as, for instance, fish-oil, reindeer-fat, the blubber of sea-animals, and the fat of other animals, but they cannot consume it in such quantities as the Yakut consume melted butter. Excessive use of the blubber of the spotted-seal (*Phoca ochotensis*) produces vomiting; and many of them cannot bear the smell of the blubber of the male of the ringed-seal.

The Koryak distinguish the following colors, — black and dark blue (called by one name, nu'uqen), white (ne'lhaqen), red (naye'čeqen), green, light blue, and coffee-color (nota'lhayeqen), and yellow (mali'čeqen). When they are shown (for instance, on printed calico) the various colors intermediary between those enumerated, they class them among one or another of the above. Red is regarded as the most beautiful color. Faces with ruddy cheeks are considered handsome. Soft light-brown hair and brown eyes are valued as marks of feminine beauty. Dark eyes and coarse black hair in a woman are looked upon as signs of ill-nature.

1: Jochelson E-5 (1900-01) 1908 RY4 Koryak RY4

of their territory, use the reindeer only in harness; but their narrow, canoe-like sledges easily glide along paths that are otherwise hardly passable. Besides, they harness only one reindeer to a sledge, after the manner of the freight-sledges of the tundra Yukaghir, the Chukchee, and the Koryak.

However, some Tungus tribes, when they come in contact with people using sledges, employ their reindeer in harness and for riding, and for carrying packs, or for use in sledges exclusively. Schrenck thought[1] that the Saghalin Orok are the only Tungus tribe which make use of reindeer both for riding and for hauling sledges. According to his opinion, they adopted the idea of using sledges from the dog-breeders, the Gilyak. That is, of course, possible; but, as I have said before, there are other Tungus tribes who use sledges. Thus, all over the extensive northern tundra — between the Kolyma and Lena Rivers, where the Tungus tribes come in contact or intermingle with the Yukaghir or the Yakut — they have in certain cases adopted the sledge-harness without giving up reindeer-riding. The same may be said also of the Tungus living in other parts of the province of Yakutsk. On their trips through the mountains, or on hunting-expeditions, they still use reindeer for riding and for carrying packs; but, for transporting merchandise and mail between post-stations, they hitch their reindeer to sledges. Such contracts, however, are taken up only by rich Tungus who own large herds. In some localities the Tungus have, in later times, begun to train their reindeer to draw sledges. Thus, on the trail between Ola (a bay of the Sea of Okhotsk) and the upper course of the Kolyma River, which was opened only ten years ago, the local Tungus have trained their reindeer, which were formerly used exclusively for carrying packs, to carry goods on sledges. The Dolgan, a Yakutized Tungus tribe in the Yenisei tundra, and the Khangai, a Yukaghirized Tungus tribe in the Kolyma tundra, are now using the reindeer in winter in sledge-harness, and in summer as riding and pack animals.

Races of Northern Reindeer. — In eastern Siberia two principal races are distinguished, both among the wild and the domesticated reindeer. The wild reindeer are divided into mountain and tundra reindeer. The former are characterized by their greater height and the gray or light-gray color of their fur. In summer they retire from the mosquitoes to the summits of the mountains, and in winter they come down to the river-valleys. The tundra reindeer are not so tall, and they have darker hair. They, too, flee from the mosquitoes in summer, but to the shores of the Arctic Ocean and to near-by islands; and in winter they return to the northern forest-line. These migrations are carried out in large herds, which are waylaid by hunters on the Anadyr River and on the lower course of the Kolyma River in the spring and fall when the reindeer cross those streams.

[1] Schrenck, II, p. 179.

1: Jochelson E-5 (1900-01) 1908 RY4 Koryak RY4

233 136 It is worthy of note that the pregnant females leave for the north ahead of the males, crossing the rivers on the ice, so as to reach the summer places before the fawns are born. One of the distinguishing peculiarities of these two races of reindeer is the form of the hoof. The mountain reindeer have a high, steep hoof; the tundra reindeer, a rather flat, platelike hoof.

The domesticated reindeer are likewise divided into two races, corresponding to the races of the wild reindeer; namely, the Tungus and the Koryak-Chukchee reindeer. The Tungus reindeer is taller in stature, has longer legs, a more elongated muzzle, and hair of a lighter color (mostly gray or reddish gray), than the Koryak-Chukchee reindeer. The body of the Koryak-Chukchee reindeer is larger in proportion to its height. The color of its fur is darker than that of the Tungus reindeer. The hair of the fawns is especially dark; frequently it is black in the fall, and toward winter, as they grow older, it turns somewhat gray. The dark color of their fur seems to me to be caused by the humidity of the climate. In maritime regions the coloring of the reindeer is darker than in the mountains and in the continental climate of the Yakut territory. Among the Koryak-Chukchee reindeer we also meet more frequently with white (as though in contrast with the dark shades) and with dappled reindeer than we do among the Tungus. The spotted skins are highly prized for clothing, and the white ones for funeral dress. Spotted skins are never found among wild reindeer.

All that I have said here about the two races of reindeer is based upon accounts of the natives and on my own superficial observations. Professor Allen, in describing the material furnished by our Expedition, says, however, "Although this material seems considerable, it is insufficient, both in quantity and in character, to enable one to make satisfactory comparisons between the wild and the domesticated animals, or between the two commonly recognized domestic races, — the Lamut and the Chukchee." Further on he says, "The color of these skins is much like that of our eastern woodland caribou, at least, in general effect: the antlers, however, are longer and more slender, and partake more of the Greenland type."[1]

174 233 The domesticated reindeer of the tundra Yukaghir and of the polar Yakut belong to the Tungus race of reindeer. We know that the reindeer-breeding of the polar Yakut is of recent origin, and that they adopted the reindeer from the Tungus; but of the tundra Yukaghir this can hardly be said. It is quite possible that their first reindeer were of the Chukchee race, and that, after amalgamation of the tundra Yukaghir with the Tungus, the reindeer of the former gradually approached more nearly to the type of the Tungus race. A change of that kind may be observed in the reindeer of the Chukchee group which settled but thirty years ago on

[1] Allen, Report on the Mammals collected in Northeastern Siberia by the Jesup North Pacific Expedition (Bulletin of the American Museum of Natural History [New York, 1903], Vol. XIX, p. 126).

1: Jochelson E-5 (1900-01) 1908 RY4 Koryak RY4

233 171 deer crowd about the smoke-pits, or stay in the shed. In one household I saw a shed built to accommodate two hundred reindeer. These reindeer were so tame that they would upset my photographic apparatus, and had to be kept at a distance to enable me to photograph them. The Koryak reindeer could not be approached near enough with the apparatus to be photographed, but would scatter in all directions, in spite of the fact that the herdsmen tried to keep them in place.

Not far from Shigansk, on the Lena River, where immense larch-forests cover large areas, I met among the Yakut another type of reindeer-management. These Yakut leave their reindeer in the woods, free from any supervision, during the summer, while they themselves engage in fishing along the islands and on the Lena. In the fall, on the appearance of snow, the reindeer are rounded up. They do not stray far away from the winter dwellings, and it never happens that they get lost during the summer. There are no wolves in the depths of the forests, as in winter they avoid the deep, soft snows of dense woods. The polar wolf lives and propagates mainly on the tundra, amidst the shrubbery, on the outskirts of forests. There he finds in abundance wild reindeer, hares, and, in case of extreme necessity, lemmings. The dense woods of northern Siberia surprise the traveller by the scarcity of animal life and by their deadly stillness.

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Reindeer spending their summer in the woods try to protect themselves from mosquitoes by running back and forth on the outskirts of the forest, thus forming a wide beaten path, or by getting into the water of rivers or lakes. On cloudy days, when the mosquitoes are numerous, the reindeer will spend the entire day in the water up to their necks, and will venture into the pastures only at night to satisfy their hunger and to rest on the grass. In winter the Yakut settlers do not manage so easily with their reindeer. Owing to the lack of food-supplies, they cannot keep them in their winter settlements. During summer, whenever there are Tungus in the vicinity, the Yakut, as a rule, keep their reindeer in a Tungus herd; or a few households get together, and the owners take turns in pasturing them.

On the lower course of the Yana, Omoloi, and Lena Rivers, I saw still another form of reindeer-management. In summer the Yakut reindeer are taken to the mountains by the Tungus or Yukaghir, while the Yakut owners remain on the river, fishing. In winter the herdsmen return to the Yakut houses, and the Yakut divide their supplies of fish with them. The wealthy Yakut, who own large herds of thousands of head, always keep hired Tungus or Yukaghir herdsmen. Of late years, good reindeer herdsmen are developing among the Yakut themselves.

Since the care and the use of a Koryak herd are almost the same as those of a Chukchee herd, I shall not attempt to describe at length the manner of driving, the harness, the sledges, the life of the herdsmen, and the diseases

1: Jochelson E-5 (1900-01) 1908 RY4 KoryakRY4

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sledge is deemed a great sin, for thus the Kamchadal women sit on it."[1] On the other hand, Steller relates that the Kamchadal sat more frequently on one side of their sledge to be able to jump down quickly in dangerous places, but sometimes when driving on a smooth plain they sat astride.[2]

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TREATMENT OF THE DOG. *Feeding.* — The northern driving-dog, being a carnivorous animal, requires for its nourishment the same food as man. This has the advantage that the procuring and storing of food for both man and his domestic animals may be attended to at one and the same time and place. On the other hand, an abundant supply of animal food is required: hence dog-breeding is possible only on the seacoast or near rivers rich in fish. Besides, dog-breeding necessitates settled habits, as it requires large stocks of animal food for the winter, when sea-hunting ceases, as is the case in the territory occupied by the Koryak. The main food of the Siberian dogs consists of fish. On the coast, fish is caught in summer in great quantities, and is conveniently prepared for winter supplies. The Koryak dogs, too, prefer fish to any other kind of animal food. The principal fish caught by the Koryak is the dog-salmon (*Oncorhynchus keta*). It serves also as the staple food for dogs. In part the dogs' food is supplied by the small fish uyo'k (*Salmo socialis*). Dog-salmon dried in the sun is fed dry to the dogs during journeys. The skeleton of the dog-salmon, too, on which small pieces of meat remain after the soft parts have been removed for drying, supplies food after being dried in the sun. When at home, a thin soup for the dogs, made from the bones and heads of dog-salmon, dried uyo'k, and other fish-offal, is cooked in an iron kettle. Into this soup pieces of seal-blubber are sometimes thrown. The soup for the dogs, when ready, is cooled a little by pouring it into wooden or seal skin buckets (Plate XXVII, Fig. 1; see also Fig. 104), which are then carried out of the houses on the backs of the women by means of head-bands. As the food for the dogs is prepared of those parts of fish which decompose most rapidly during the summer and autumn, a strong stench fills the houses while it is being cooked. During our residence in the underground houses of the Koryak, this stench from the dogs' food caused us the greatest annoyance. The dogs are fed outside of the house. Plate XXVII, Fig. 1, shows two women pouring the warm soup, which is of the color of iron-rust, from wooden buckets into a long wooden trough. Before feeding, children untie those dogs, which for some reason are tied up. Impetuously the dogs make for the trough, and furiously begin to lap up the soup, dipping their snouts into the liquid up to the eyes, searching for the more substantial solid portions of the food. Fights are rare among the dogs while feeding, for they well know that the dog that starts a fight will be struck over the head by the women or children who supervise

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[1] See Krasheninnikoff, II, p. 81.

[2] See Steller, p. 371.

1: Jochelson E-5 (1900-01) 1908 RY4 Koryak RY4

VII. — FISHING, HUNTING, AND WAR.

Fishing. — As fish is the principal food of the Maritime Koryak, I shall begin with a description of the fishing-industry. It is necessary to remark that my own observations apply in the main to the bays and rivers of the Sea of Okhotsk; but through inquiry I have also gathered some information concerning the fishing-pursuits of the people who live on Bering Sea.

Species of Fish. — While the fishermen of arctic Siberia subsist mainly on *Coregonus*, a genus of the family *Salmonidæ*, which ascend the rivers from the Polar Sea, the principal food of the inhabitants of the northern coasts of the Pacific Ocean consists of *Oncorhynchus*, another genus of the same family.[1] The leading position as a means of sustenance belongs to the dog-salmon (*Oncorhynchus lagocephalus*, or *O. keta*). For this reason the dog-salmon, whose proper name is qeta′ or qetaqet, is often called ŀgi′-ana′n ("genuine fish") or simply ɤ′nĕm ("fish"). Next in importance is the humpback salmon (*Oncorhynchus proteus* Pall. or *O. horbusha;* Koryak, kala′ŀn). The red salmon (*O. lycaodon* or *O. nerka;* Koryak, wiyu′wi) is less important, for only few of these enter the Koryak rivers; greater numbers of them are caught by the Kamchadal. The chawicha (*Salmo orientalis;* Koryak, a′vač or e′vič), too, belongs to the rare visitors of the Koryak rivers; but it enters the rivers of southern Kamchatka in great numbers. The kundscha (*Salmo leucomænis* Pall.) is quite as rare, but it is met with near the village of Yamsk.

Salmon of the genus *Oncorhynchus* enter the rivers in summer to spawn. They do not return to the sea, but continue to ascend the rivers until completely exhausted. Then they die. Not infrequently the river carries back to the sea the half-dead fish, which are not able to withstand the current, and they die before reaching the sea. In early spring the fry hatched in the rivers drift down to the sea, grow up there, and, having reached full maturity after several years, again ascend the river to spawn, and perish there. The migration of the salmon has been termed by Middendorf "migration of death" (*Todeswandern*).

Among the other *Salmonidæ* the most important in the household economy of the Koryak is the small uyo′k (yĕrs) of the Russians (*Salmo socialis;*

[1] Some species of *Coregonus* — such as *Coregonus laurichtys*, *Coregonus muksun*, and *Coregonus clupeoides* — enter the largest and longest river of Bering Sea on the Siberian side (the Anadyr), and the largest river of the Okhotsk Sea (the Penshina), in great quantities. The inhabitants of the village Markova (about 530 miles from the mouth of the river Anadyr) catch these fish every summer. I was also told of these fish by the inhabitants of the Russian settlement Penshinsk, about 330 miles from the mouth of the Penshina. *Coregonus laurichtys* appears as early as the middle of June; *Coregonus clupeoides* in September only.

1: Jochelson E-5 (1900-01) 1908 RY4 Koryak R-1 4

226 Koryak, hitgi'yit), which belongs to the genus of smelts (*Osmerus*). Other
136 species of *Osmerus*, too, occur, but in small numbers as compared with the uyo'k. The uyo'k goes with the tide to the river-mouths and bays to spawn, in such dense masses that at low tide the shore is covered with a solid layer of roe. After spawning, the uyo'k returns to the sea.

The salveline (*Salvelinus malma* Walb), which belongs to the genus *Salmo*, also plays a rôle of some importance. The Koryak distinguish two kinds of salveline, — the large (uiti'wit) and the small (qai'tuwit), — but these are clearly of the same species, at different ages. This may be gathered also from the meaning of the Koryak word qai ("young"). The salveline spends a rather long time in freash water. Together with other fish migrating in shoals, it reaches the rivers in summer, ascends their mountain-tributaries in autumn, and goes down to the sea towards spring.

In the rivers is found also the grayling, of the genus *Thymallus*. The catch of tom-cod (*Eleginus Navaga;* Koryak wē'gen), of the family *Gadida*, is also used, but not so much as the various species of salmon. Herring (*Clupea harengus;* Koryak, ukii') enter the mouths of some rivers, but not every year, as is the case on the east coast of Kamchatka. In the river-mouths flounders (*Pleuronectida;* Koryak, a'lpi) are also procured.

Finally we must mention the eel-pout (wala'ăin) and the pike (tutki'tit), which at times are caught in river-nets, but are not specially sought by the Koryak.

226 *Fishing-Seasons.* — The dog-salmon, the principal object of the Koryak fisheries, does not enter all the rivers at the same time, but its migration
221 begins approximately in the early or middle part of July. The main run lasts three or four weeks, but continues, with diminished numbers of fish, until the end of August. The fish enters the rivers at high tide: therefore the fishermen, before high tide, assemble off the mouth of the river; and after high tide, higher up the river. The dog-salmon does not go far up the river. Even in the river Gishiga — next to the Penshina, the largest of the Koryak rivers — it does not ascend farther than sixty-five miles from the mouth. On my route from Gishiga to the Kolyma, however, I met with dog-salmon in the Gishiga River up to eighty or eighty-five miles from its mouth. There fish that had perished were still met with in the shallows and on the dried-up river-banks, while in the swift arms of the river dying dog-salmon were making their last struggles against the current. The last fishermen I saw engaged in catching dog-salmon were approximately sixty-five miles from the mouth of the river. They were Reindeer Tungus, who were preparing their winter supplies of fish. A little below them were Reindeer Koryak and other Tungus. Russian fishermen do not ascend the river above thirty miles from its mouth. The farther up the river the dog-salmon is caught, the drier and less savory it is.

1: Jochelson E-5 (1900-01) 1908 RY4Koryak RY4

The principal Russian fishing-stations for the capture of dog-salmon are situated between the town of Gishiginsk and the settlement Kushka (at the mouth of the river), not more than thirteen miles apart. In all the other rivers the Koryak catch the dog-salmon in the estuary or a few miles above it.

The humpback salmon enters the rivers nearly at the same time as the dog-salmon. As compared with the dog-salmon, the humpback salmon visits the Koryak rivers in very insignificant numbers only, but in some years it happens that the main run of fish consists of humpback salmon. In those years the dog-salmon is seldom seen.

At the end of May or in the beginning of June, *Salmo socialis* comes to the river-mouths or to the shallow bays to spawn. It does not ascend the rivers any considerable distance. The run lasts from seven to ten days, after which the fish return to the sea.

The salveline enters the rivers somewhat later than the dog-salmon, and goes rather far up the chief rivers and their tributaries. Not infrequently it spends the winter in these tributaries, and in spring descends to the sea. It is fished in the rivers in summer and until late in the autumn.

Tom-cod is caught in the river-mouths and bays chiefly in the fall; but it is sought both in summer and in winter, in the latter season in ice-holes in the rivers. Tom-cod is found all the year round in Itkana Bay, but even there the principal catch takes place in autumn. In spring, before the beginning of the salmon-run, the Koryak have such a craving for fresh fish that the inhabitants of the villages on the Paren and Kamenskoye side, and even those of the opposite side of Penshina Bay (from Ma'meč), go to Itkana to fish tom-cod.

Fishing-Implements. — To judge from the primitive form of fishing-implements and of the material of which they are made, the Russians have exerted little influence upon the methods of Koryak fishing. Although the salmon-run in the Koryak rivers is not so abundant and varied as in those of Kamchatka, the dog-salmon run alone is so heavy, that, with good seine-nets, the Koryak would be able to take in their whole annual supply of fish within a few days; but they are as yet unfamiliar with seine-nets. For making nets, they use nettle-fibre, which they spin in a primitive and imperfect manner.

On the Gishiga River the Russian settlers employ seines and other nets, which they make of imported Russian or oftener American twine. They are organized in artels.[1] From three to five families join forces, each procuring one net or part of the seine, about sixteen or eighteen metres in length, and from four to five metres in width. Such a net is from fifty-five to seventy meshes in width, and every side of a mesh measures from three and a half to five centimetres. To make a seine-net these separate nets are sewed together. The net, when in position, is about eighty metres long. For

[1] Artel (артель) means in Russian a company of workers, also a gang of seiners.

1: Jochelson E-5 (1900-01) 1908 RYY Koryak RY4

225 136 Seal-Hunting.—Seal is the mammal most extensively hunted, especially in Penshina Bay. The following species are found in Koryak waters: (1) ground-seal, or bearded seal (*Erignatus barbatus;* Koryak, mémel; Russian, nerpa or lakhtak), the largest of seals, measuring from 2 metres to 2.6 metres in length; (2) spotted seal or Okhotsk seal (*Phoca Ochotensis;* Koryak, keli'lin; Russian, larga); (3) ringed-seal (*Phoca hispida;* Koryak, wi'twit; Russian, akipa), the smallest of seals; and (4) ribbon-seal (*Histriophoca fasciata;* Koryak, esgi'es; Russian, krylata). The last-named seal inhabits only Bering Sea; but an old man from the settlement Kuel told me that once he had caught a ribbon-seal which had incidentally entered Penshina Bay.

Ground-seal and ringed-seal are hunted the greater part of the year, except during the winter months. When the coast-ice breaks up, early in June, and the rivers carry masses of ice into the sea, thong-seals and ringed-seals are fond of lying on ice-floes, on which they are killed from skin boats and kayaks. When the river-banks are clear of ice, the thong-seals like to go ashore in bays and river-mouths and bask in the sunshine, or they lie on the banks after high tide. But the principal hunting-season for thong and ringed seals is in autumn, — in September and in the beginning of October, 221 225 Then the seals enter the river-estuaries, evidently in the wake of the fish which ascend the rivers to winter there. In autumn, when the coast-ice begins to form in the gulfs, thong and ringed seals again enjoy floating on ice torn away from the coast by the tide or the wind.

The spotted seal appears early in June, soon after the rivers are clear of ice, near the shores, and enters the estuaries, ascending in small numbers with the flood-tide, and returning with the ebb-tide; but with the beginning of the dog-salmon run, after the 14th of July, the spotted seal, at flood-tide, follows the salmon into the rivers in shoals, in pursuit of the fish, which, in their endeavors to escape them, jump out of the water. Here and there the seals are seen thrusting their heads out of the water, quite often holding a fish in the mouth. In the month of June, when the run of the dog-salmon begins, I made a boat journey from the Gishiga River to the Nayakhan River, and saw all the rocks in this part of Gishiga Bay covered with spotted seals basking in the sun. We approached in our boat quite close to these little islands. Though the sea was perfectly calm, the incessant deafening cries of seabirds, particularly of the numerous varieties of gulls, drowned the noise of the oars, and the seals noticed us only when we were at a distance of some thirty metres from them. As soon as they saw us, however, in an instant they rolled, grunting, off the rocks into the sea. In autumn the spotted seal leaves the coast. The main hunting-season thus coincides with the run of the dog-salmon.

In winter, beginning with the middle of October, the hunting of seals ceases. The Maritime Koryak of Penshina Bay and Bering Sea do not resort to the method practised by the Eskimo, Chukchee, and also by those Gilyak

1: Jochelson E-5 (1900-01) 1908 RY4 Koryak RY4

205 177 Koryak say that until lately three American whalers used to go to Penshina Bay every summer, but in the last two or three years only one went. Evidently the whales have left for the open sea to escape being hunted in the bays. While entering Nayakhan Bay[1] in a boat, we saw a great number of whales blowing far away in the mouth of Gishiga Bay. The Koryak do not venture to go whaling in their skin boats in the open sea. During their expeditions they do not go far from shore. In calm weather they cross Penshina Bay only at its narrow part, from Ma'meč to Itkana or from Ma'meč to Kamenskoye. If the Koryak have obtained any whales during the last few years, they have either been dead ones drifted ashore — whales wounded by whalers, but not caught by them, or those that perished from the attacks of the killer-whales — or whales killed by the American whalemen and left to them. In the latter case, the whalers take off the skin, blubber, and whalebone, and, after informing the Koryak, throw the rest of the body ashore, or even tow it to the nearest settlement. The Koryak speak with gratitude of these acts of the American whalers or at-ayim (i. e., "chiefs of the boats"); but probably the rapacious pursuit of whales by whalers is the principal cause of their disappearance from the Koryak bays. In the summer of 1900 the Koryak of Penshina Bay had two dead whales. One was cast out by the sea near the settlement Ma'meč, and the other was taken to the village Itkana by an American whaler, — the only one that year in Penshina Bay. It goes without saying that whaling by foreign whalers in Koryak waters is considered illegitimate by the Russians, and is possible only because of the absence of a Russian cruiser.

225 136 Exactly what species of whale the Koryak hunted is difficult to say. The whale which they honored with a festival is called by them yu'ñim. According to their description, this is the largest of all whales, with a skin of dark color and with black whalebone. When killed, the whale does not sink, owing to its blubber. This is evidently the Greenland whale (*Balæna mysticetus* L.). Another whale is called "diarrhœa-whale" (poqlă'-yu'ñim). It is small, and has white whalebone. The Koryak never hunted it, but ate it when washed ashore by the sea. A third kind of whale is called lu'kula'n, and is met with in the ocean, but never enters the bays. Finally the Koryak are also familiar with the killer-whale *(Orca gladiator Gill)*, which they call "wedge-whale" (wu'li-yu'ñim); but I did not observe that it is an object of cult, as among the Gilyak, who consider it a beneficent spirit, that kills large whales for them. Krasheninnikoff says that the Kamchadal dread the killer-whale so much, that they not only do not kill it, but do not even approach it, for fear that it will upset the boat of the hunter. Whenever they saw a killer-whale approaching their boats, they sacrificed to it, praying that it might do them no harm.[2]

[1] Compare p. 403.

[2] See Krasheninnikoff, I, p. 426.

1: Jochelson E-5 (1900-01) 1908 RY4 Koryak RY4

225 411 head of such a spear (a'ut) is shown in Fig. 136, *a*. It is 15 cm. in length. The lower narrow part of the a'ut is fitted into a hollow at the thicker end of the wooden spear-shaft, which is wound with a thong. When the whale is dead, its carcass, which is studded with harpoons and spears, is taken in tow by all the boats that have participated in the hunt, as shown in Fig. 247, and is hauled to the village.

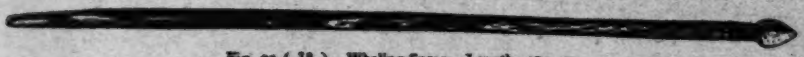

Fig. 93 ($\frac{1}{11\frac{1}{2}}$). Whaling-Spear. Length, 204 cm.

Krasheninnikoff relates[1] that in his time the people of Alutor caught whales in the bays in enormous nets made of smoke-dried walrus-hide thongs as stout as a man's arm.[2]

● 136] White whales *(Delphinapterus leucas)* are hunted in the same way as thong-seals. The white whale (Russian belukha [бѣлуха]; Koryak, yiyi'ñin), too, comes into the bays and river-estuaries with the flood-tide in pursuit of fish, and goes back to the open sea with the ebb-tide. The full-grown white whale measures four metres and upward in length. Not infrequently it runs into the nets set for catching thong-seals. Both sealing-harpoons with iron heads and whaling-harpoons with stone heads are used in hunting white whales. When the white whale is worn out from wounds, it is despatched with a stone spear in the manner described above. If the white whale does not hurry to return to sea with the ebb-tide, while the water is still high, the hunters block the river-mouth in their kayaks, and drive them back into the river by means of shouts and by striking the water with their oars until the estuary becomes shallow and the white whale remains almost high 133 and dry. It is then easily killed with rifles and spears. In this way the 225 Koryak sometimes shut whole shoals of white whales within the river-mouths, as was the case in the summer of 1899, when the Koryak hemmed in sixteen white whales in the estuary of the river Ovekova. Still the number of these animals caught is insignificant in comparison with the enormous quantities found in the Koryak waters. Thus during the summer of 1900 the inhabitants of Kamenskoye caught nine white whales; those of Itkana, six; and 492 those of Kuel, only two. Plate XXVIII, Fig. 2, shows how the inhabitants of Kuel haul a white whale caught in seal-nets on dog-sleds over the coast-ice to the settlement. This photograph was taken in the beginning of October.[3]

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[1] See Krasheninnikoff, I, p. 421.

[2] In looking over the annual reports of the commander of the district, in the Gishiga archives I found some data as to the number of whales killed by the Koryak in certain years. Judging by other statistical data contained in these reports, these numbers are doubtless also below the actual. A catch of two whales is recorded for 1848 in Paren, and of two whales in Kamenskoye; for 1856, three whales in Kamenskoye; for 1886, six whales in the whole of Penshina Bay.

[3] See description of festival, Part I, pp. 69—77.

1: Jochelson E-5 (1900-01) 1908 RY4 Koryak RY4

I will remark here that seals are hauled from the shore to the village over the ground or ice by means of a thong, which is usually passed through a slit running from under the lower jaw through the mouth. I did not see among the Maritime Koryak of Penshina Bay any small sleds such as are used by the Chukchee and Eskimo for conveying home seals.[1]

In the Bays of the Sea of Okhotsk there are no walruses and sea-lions, nor any ribbon-seals *(Histriophoca fasciata)*. Old people in the village of Itkana told me that they knew of one case of a walrus being caught in Penshina Bay. How reliable this information is I do not know. The walrus in Bering Sea has decreased very much in numbers owing to its incessant unlawful pursuit. They are hunted by the Koryak in the same way as seals, — mainly with harpoons. In former times the Karagha estuary and the bays of Karagha Island were favorite localities for walrusing.

Hunting of Land-Game. — The wild reindeer and the mountain-sheep or Kamchatka big-horn (*Ovis nivicola* Eschholtz) are the only wild land-animals killed by the Koryak for food. The elk and the musk-deer, which are met with on the southern coasts of the Sea of Okhotsk and west of the Stanovoy Mountains, are unknown in the Koryak territory, at least nowadays.

The hunt of wild reindeer is unimportant; and there are few hunters who make a specialty of this pursuit, as is the case among the Yukaghir and Tungus. Besides, the wild reindeer in the Koryak territory are not numerous. The domestic reindeer, for which the best pastures are selected, has pushed the wild herds to the north or to the less favorable pastures of the mountain-chains. They are found in small herds only, on mountain-tops in summer, and in the tundras and river-valleys in winter. On the Palpal Ridge a wild reindeer is found which crosses the Anadyr River and lives in summer on the coast of the Arctic Ocean. Small herds of the migratory wild reindeer reach the most southerly parts of the Koryak territory. The Maritime Koryak rarely hunt the wild reindeer. It is pursued principally by the inhabitants of northern Kamchatka and of the Parapol Valley, and particularly by the Koryak on the Palpal.[2] Still the hunt is not carried on regularly. In domestic life, as well as in trade, the wild reindeer is of slight importance only. Skins of wild reindeer are not exported from Gishiga; while among the number of reindeer-skins exported from the Anadyr and the Kolyma Rivers the skins of wild reindeer occupy an important place,[3] since on these rivers many are killed during their migrations to the north and back.

Like the wild goat, the mountain-sheep is fond of rocky mountain-tops, where it feeds on alpine marshes. It is especially numerous in the Kam-

[1] See Bogoras, The Chukchee, Vol. VII of this series, p. 107.

[2] In regard to the methods of hunting wild reindeer compare Bogoras, The Chukchee, Vol. VII of this series, pp. 132–136; Jochelson, Sketch of the Hunting Pursuits and Peltry Trade in the Kolyma Country (St. Petersburg, 1898), pp. 41–48.

[3] See Jochelson, Sketch of the Hunting Pursuits and Peltry Trade in the Kolyma Country, p. 38.

1: Jochelson E-5 (1900-01) 1908 RY4 Koryak RY4

224 chatka Mountains. It is hunted in the mountains of northern Kamchatka, the Ma'meč Ridge, the ranges of the Alutorsk region, farther to the north, ● 136 and in the mountains of the western coast of Penshina Bay and the Taigonos Peninsula. The meat and fat of the mountain-sheep are considered a very toothsome dish. The hunt for the animal takes place principally in autumn, when the sheep take on a thick layer of fat, and their skin is covered with new and strong wool. The fur of the mountain-sheep is considered warmer than that of the reindeer. Occasionally the animal is killed in other seasons also. Among the Maritime Koryak of northern Kamchatka there are special hunters who go out into the mountains in autumn and in the beginning of winter to hunt sheep. Some of the Taigonos Reindeer Koryak hunt it succesfully in winter. During my stay on the Topolovka River, in the latter part of April, 1901, two Koryak of the camp in which I lived killed four mountain-sheep. In Kamenskoye I saw a Maritime Koryak from the village Ma'meč who had killed twenty sheep during the winter of 1900–01. The skin of the sheep, like that of the wild reindeer, is not exported. In olden times the sheep was hunted with the bow, but now 237] it is pursued almost exclusively with the gun. Besides its meat and skin, the sheep yields splendid horns (from half to three-quarters of a metre long, following the curvature), which are used for the manufacture of various articles, like spoons, ladles, and cups, and also for carvings.

Hunting of Fur-Bearing Animals. — I will begin my description with the hunt of the bear, for, like the wild reindeer and the sheep, not only its skin is used, but its meat is eaten as well, especially in autumn, when the bear is fat. The brown bear (*Ursus beringianus* Middendorf; Koryak, koi'ñin) is abundant in Kamchatka, where the rivers are rich in fish. In the 439] Koryak territory bears are also quite numerous. In 1899, 380 bear-skins were exported to Vladivostok from Gishiga and Alutorsk.[1] In summer, bears are killed when they come down from the mountains to the river-valleys and the seacoast to hunt fish; in autumn, when feeding on berries or when visiting the storehouses of the Koryak to steal the fish stored there for winter use; and in winter they are killed in their lairs. In the spring, when the bear leaves its lair, it is killed only in self-defence. The bear is then lean, and its skin useless; but an encounter with it at this season is not safe for man. In summer and autumn the bear rarely attacks man, usually taking flight on meeting him. It is said that in autumn, when a bear happens to surprise women while picking berries, it merely takes the berries away from 224 them, letting them go unharmed. In summer and autumn the Koryak kill bears mainly with the gun; in olden days they used the bow for this purpose. Not infrequently they attack the bear with the spear. In both cases,

[1] See Chapter XIII, Trade.

1: Jochelson E-5 (1900-01) 1908 R44 Koryak R44

hunting-dogs are used, which attack the bear from the rear, make it turn around for self-defence, and prevent it from rushing at the hunter, who is thus enabled to take good aim or to choose an opportune moment for his attack. There are hunters among the Maritime Koryak who train dogs especially for hunting. These are not used in harness. Many of the dogs used for hauling sledges are not only of no help in bear-hunting, but are even a hindrance, owing to their cowardice, since they will hide behind their master. In winter the bear is attacked in its den in the manner common throughout Siberia. The opening of the den is blocked with logs, so that the animal, when awakened, cannot get out. The roof of the den is broken through, and the bear is stabbed to death with a spear or killed with a gun. Snares made of stout thongs are placed near the storehouses. I did not hear of other bear-traps, such as are employed in other parts of Siberia. I have described before the festival in honor of the bear.[1]

Foxes, particularly red foxes, are caught in great numbers, and their skins constitute the greatest part of the furs exported.[2] Fox-hunting is carried on in various ways, — with dogs, which the hunter sets on the track; by the Reindeer Koryak with reindeer-sledges. It is overtaken, and killed with clubs. Still another method is to drive the fox into its own den or into a hole, from which it is either pulled out by means of a cleft stick, or smoked out. Traps are also employed. These are the self-acting bow, the dead-fall, and the edge-trap with a spring of twisted sinew.[3] Shooting foxes with guns is seldom successful. Quite recently foxes have been poisoned by means of strychnine pills, which are scattered about. This method is in use near Russian settlements.

Krasheninnikoff asserts that all traps of the Kamchadal were introduced by the Russians. He states that previous to the arrival of the Russians the Kamchadal did not care for fox-skins, but preferred dog-skins, and that when they wanted to kill foxes, they did so by means of clubs. Foxes were so common that they would come to the troughs when the dogs were fed.[4] I believe that the same conditions prevailed among the Koryak. Even at present they set fewer traps by far than the Yukaghir and the Russianized tribes of Siberia. The Eskimo and Indians, too, employ various traps for the capture of animals;[5] but the traps with sinew spring,[6] found in Alaska, are probably of Siberian origin. The Koryak have evidently adopted the self-acting bow either from the Russians or from the Yakut and Tungus, who use it widely.

In the fur trade the red foxes of the Koryak territory, on account of their gorgeous and soft fur and its fiery-red color, are considered among the

[1] See Part I, p. 88. [2] See Chapter XIII, Trade.

[3] See Jochelson, Sketch of the Hunting-Pursuits, etc., Figs. 1, 2, 5, 7, 9, pp. 6, 7, 11, 15, 18; Bogoras, The Chukchee. Vol. VII of this series, Figs. 48–50, pp. 138–140.

[4] See Krasheninnikoff, I, p. 340. [5] See Mason, Traps of the American Indians.

[6] Ibid., Fig. 5, p. 472; Nelson, Fig. 37, p. 122.

1: Jochelson E-5 (1900-01) 1908 RY4 Koryak RY4

224 136 very best. They are equal in value to those of Kamchatka and the Anadyr. Since the arrival of the Russians in this region, the number of foxes has considerably fallen off, and they are now nearly extinct. In the neighborhood of the Russian villages they are not seen at all. Their number varies considerably from year to year. Their migration northward or southward depends on the presence of mice or hares, which foxes follow.

The Arctic fox *(Vulpes lagopus)* occurs in much smaller numbers than the red fox. It is a tundra animal *par excellence*, and is found more often in the treeless eastern part of the Koryak country than in the western district. Blue foxes are very rare: their number constitutes about one per cent of that of the white foxes. The methods of hunting the polar fox are identical with those used for the red fox.

The squirrel *(Sciurus vulgaris)* is hardly hunted at all. It is found in small numbers on the upper course of the Gishiga and Penshina and of their tributaries, but is absent in the treeless and maritime region. In Kamchatka the squirrel does not occur at all, even in the wooded localities of the central ridge. A small number of squirrels are obtained in the Gishiga district by the Tungus, but by far the greater part of squirrel-skins which are exported by way of Gishiga is obtained from nomadic Tungus in the Kolyma district and partly in the Okhotsk district. In former times the Tungus killed squirrels by means of the bow. They used blunt arrows made of bone, so as not to spoil the skin. The hunters would aim at the head of the animal when it was sitting in a tree. The blunt arrow would only daze it, and it would fall to the ground, where it was picked up by the hunter. If still capable of running, the squirrel was caught by the hunting-dog. Nowadays the place of the bow has been taken by the flint-lock gun with thin bore for bullets of the size of a pea, which do not injure the skin.

439] The sable (*Mustela zibellina*, Linn.), the most valuable fur-animal of Siberia, was undoubtedly at one time more widespread than it is now. At present only a few dozen sable-skins are exported annually from Gishiga. These are caught in the river-valleys of Penshina and Opuka, and partly in northern Kamchatka. In southern Kamchatka the Kamchadal even now kill nearly two thousand sables annually. The highest value is placed on those from the valleys of the Olekma and the Vitim, tributaries of the Lena, and from Nerchinsk in Transbaikalia. They possess a down which is entirely dark and of bluish tinge, and long, soft, glossy black hair. The finest sables have silver-tipped hair. The sable of Kamchatka is not inferior to that of Olekma in thickness of down and softness of hair; but, since it has a russet color, the fur is of inferior quality, resembling marter-fur. The Koryak sable is somewhat darker than that of Kamchatka. The sable is hunted with the gun, in the same way as the squirrel. It is a good climber, and in time of danger takes to treetops for safety. The flintlock gun used for hunting

1: Jochelson E-5 (1900-01) 1908 RY4 Koryak RY4

sables is of larger caliber than the one used for squirrels. Oftentimes the Kamchadal shoot sables with shot. If the animal runs into a hole, the hunter sets a nettle-thread net near the entrance, and drives it out either with the help of a dog, which digs the hole open, or by means of smoke. In our Koryak collection there is a sable-trap with sinew spring from the Opuka River. It is one-third the size of similar traps used for catching wolves. In Kamchatka a dead-fall is set for sables. Sable-hunting is a most difficult pursuit, because the animal is very quick and cleverly escapes its pursuers. It vanishes in the snow, and makes passages under it; it conceals itself under stones, dry boughs, and roots of trees, and leaps from tree to tree, making it difficult to take good aim at it.

The gray wolf (*Canis lupus* Linn.) inhabits the tundra. It is hunted mainly by the Reindeer Koryak, who have to protect their herds against its ravages. Besides, wolf's fur is considered handsome, and is used for manufacturing caps, mittens, collars, and trimmings of clothing and foot-wear. Part of the wolf-skins are exported. In 1899 one hundred and twenty were taken out of the Gishiga district. The Koryak hunt for wolves in the same manner as do the Chukchee.[1]

Only a few skins of ermine (*Putorius ermineus* Linn.) are exported, and it seems probable that the Koryak do not hunt it much. It would also seem that this animal is not common in the Koryak territory.[2] Ermine is hunted by the Russians and by the Maritime Koryak, who set near their store-houses traps based on the principle of the self-acting bow, in which the animals are strangled.[3] The Koryak have undoubtedly borrowed this device from the Russians. In Siberia it is specially favored by the Yakut, who employ it for all small animals, and I think it is a Yakut invention.

The otter (*Lutra vulgaris*) and wolverene (*Gulo borealis*) are rarely met with, and are therefore merely casually hunted. Formerly the skins of both of these animals were used for trimming festive garments. That of the wolverene served for adorning the finest clothes among the Koryak as well as among the Kamchadal and Chukchee. Even now wolverene-skins obtained by local hunters are not exported from the extreme northeast of Siberia, but they are imported by merchants as one of the most attractive articles of barter. At present the Chukchee are the principal consumers of wolverene-skins, and the wolverenes killed by the Kamchadal are also exported by merchants to the Chukchee.

Bird-Hunting. — Birds of passage, like ducks, geese, and swans, were formerly shot with bow and arrows, but are now shot with rifles. However,

[1] Compare Bogoras, The Chukchee, Vol. VII of this series, pp. 137, 139. On the wolf festival see Part I, p. 89.

[2] In 1899, 124 skins were exported *via* Gishiga, while from the Kolyma district 6000 ermine-skins were exported *via* Yakutsk.

[3] See Jochelson, Sketch of the Hunting, etc., Fig. 8, *a*, *b*, p. 17; Bogoras, The Chukchee, Vol. VII of this series, Fig. 52, p. 143.

1: Jochelson E-5 (1900-01) 1908 R14 Koryak R14

Mollusks are gathered on the seashore and eaten by both the Maritime and the Reindeer Koryak, but are not considered a particularly delicate food. They are gathered mainly when there is not enough fish and other sea-food. Evidently mollusks were formerly eaten to a much greater extent. In excavating ancient underground houses of the Maritime Koryak at the mouth of the river Nayakhan, on a rocky coast rising about sixty metres above the sea, I found piles of shells of the following species:[1] *Purpura saxicola*, *Mytilus edulis*, *Mya arenaria*, and *Littorina grandis*. The same species are in use at present. Fig. 110 shows a pick made of bone of whale, with which to pick mollusks out of the shell. It is called kɪ|kă'-kuna (from kɪ|kăk, the Koryak name for *Littorina grandis*).

Fig. 110 ($\frac{1}{1}\frac{1}{1}$). Bone Pick for extracting Shell-Fish from Shells. Length, 10 cm.

The Reindeer Koryak eat the larva of the reindeer-fly (*Œstrus tarandi* Nordenskiöld, or *Tabanus tarandinus* Slunin), which develops under the skin of the reindeer. In spring, when the larvæ creep out from beneath the skin and settle on the hair, the Koryak gather and eat them. Herdsmen gather larvæ in their caps and bring them home as a treat for the children.

Vegetable Food. — Vegetable food plays a lesser rôle among the Koryak than among the Kamchadal, but a greater one than among the Chukchee. We have already learned from the myths that the ancestor of the Koryak, Big-Raven, was fond of berries, edible roots and herbs, and pudding prepared from them.

Koryak women gather edible roots from the burrows of red-backed mice, of which two species (*Evotomys latastei* and *Ev. Wosnessenskii*) are found in the Gishiga region and in the northern part of Kamchatka. In autumn, when the mice have laid in their winter supplies of roots, their burrows are dug up by means of picks, specimens of which are represented in Fig. 111; *a* representing an ancient form of root-digger, with a bone point tied to a wooden bow-shaped handle; while *b* shows the recent type, with an iron point, but preserving its former shape and the manner of attaching the point to the handle.

In locating the burrows of mice, aid is given by dogs which the women take along. The mice are in the habit of cleaning the roots of adhering particles of soil, and of placing them in rows in underground passages. It is deemed a sin to take away all the stores of a mouse. A small part of the supplies should be left. Besides, the burrows are not dug up late in the fall, that the mice may have ample opportunity to replenish their ravaged storerooms. I also found a belief current among the Koryak, widespread among other tribes of northeastern Siberia, that, on finding their storerooms emptied, the mice resort to suicide by hanging themselves in the crotches of branches.

[1] Identified by Dr. Louis P. Gratacap.

1: Jochelson E-5 (1900-01) 1908 RY4 Koryak RY4

532 are among the Eskimo. Among the Koryak, as well as among the Chukchee, real artistic carvings of animals have for their object solely the satisfaction of 517 the artistic taste. I had opportunities to see how carvings brought to the settlements along Penshina Bay from the shores of Bering Sea were preserved in the work-bags of the women, who would frequently take them out only to look at them. To what extent the artistic instinct is developed among the Koryak may be judged from the fact that they easily recognized drawings and pictures in the books which I showed them, and always recognized the photographs of their friends. On the contrary, the northern Yakut, the Tungus, and even the Yukaghir, frequently failed to recognize photographs

Fig. 175. Ivory Carvings representing Animals. *a*, *b*, *c*, *f*, From Opuka; *c*, *d*, From Pogač. *a* ($\frac{2}{3}\frac{1}{1}\frac{0}{0}$), Group of Sea-Lions (height, 3 cm.); *b* ($\frac{2}{3}\frac{1}{1}\frac{0}{0}$), Bear carrying a Fish (height, 4 cm.); *c* ($\frac{2}{3}\frac{1}{1}\frac{0}{0}$), Hare; *d* ($\frac{2}{3}\frac{1}{1}\frac{0}{0}$), Sea-Lion (height, 4.2 cm.); *e* ($\frac{2}{3}\frac{1}{1}\frac{0}{0}$), Young Mountain-Sheep (height, 3.7 cm.); *f* ($\frac{2}{3}\frac{1}{1}\frac{0}{0}$), Mountain-Sheep (height, 5 cm.).

which I took of their friends. Some of them even failed to recognize that the photographs represented human faces.

Specimens of Koryak carvings representing animals are shown here in Figs. 175–179. Those represented in Fig. 175 were obtained by me among the Maritime Koryak on Penshina Bay, but were made originally by the in- 136 habitants of the coast of Bering Sea. All are carvings from walrus-tusk. That shown in *a* represents a group of four sea-lions (*Eumetopias Stelleri* Peters) on an ice-floe; *b*, a black bear (*Ursus arctos* L.) with a fish in its mouth; *c*, a white hare (*Lepus variabilis* Pall.) in a sitting posture; *d*, a sea-lion (*Eumetopias Stelleri*); *e*, a mountain-lamb; and *f*, a mountain-sheep (*Ovis nivicola* Eschholtz).

As I said before, in speaking of Koryak carvings in general, the feet of

17:Antropova E-4 (no date) 1964 RY4 Koryak RY4

relatively mild. However, it is swept by cold sea winds; in winter, there are severe snowstorms and a great deal of snow.

The animal world is represented by forest fauna (fox, squirrel, ermine, brown bear, chipmunk, black grouse, wood-grouse, magpies, nutcrackers, crows, etc.), tundra fauna (polar fox in the north, polar bear, encountered in the east, reindeer, polar partridge) and mountain fauna (mountain sheep), as well as some living fossils, such as yevrazhia hamster and Siberian marmot. One should also mention the variety of sea birds—eider, gulls, etc., and vast numbers of migratory birds which come in spring, including geese, ducks, snipe, swans, etc. The rivers, lakes and sea waters abound in fish. Most important for fishing are salmon species (Siberian humpback, silver chinook, etc.), herring, uyek (Mallotus villosus socialis), cod, etc. The Sea of Okhotsk and Bering Sea abound in sea animals (whale, killer whale, white whale, and several species of seal).

The Koryak language belongs, together with Chukchi and Itel'men, to the same group of northeastern paleo-Asiatic languages. It is close to Chukchi in vocabulary and morphology. The languages of the Chukchi and Koryaks are so similar that they understand each other.

The Koryak subgroups enumerated above speak 9 dialects. The main distinctions among the dialects are phonetic. They differ to a considerably smaller degree morphologically, and even less, in vocabulary. By their principal phonetic and morphological characteristics, the dialects fall into two groups—southern and northern. The dialects of the Koryak language probably stem from the languages of the Koryak tribes into which the Koryaks were divided in the past.

The problem of Koryak origin has not been studied sufficiently. The few archaeological investigations carried out in the northwestern part of Kamchatka and along the Okhotsk coast have uncovered remains of old dugouts, stone and bone implements, and pottery. These findings may evidently be attributed to the ancestors of the modern Koryaks. The Evens of the Okhotsk Sea coast attribute the dugouts to Koryaks and point to the clay utensils as a characteristic feature of the life of the old inhabitants.

In the 17th-19th centuries, the villages of the coastal Koryaks extended considerably farther than they do today. Koryak villages on the Okhotsk Sea coast reached to Tauy Gulf. On the coast of the Bering Sea, their villages were encountered in the 17th-18th centuries, almost up to the mouth of the Anadyr'. The expansion of the Evens on the Okhotsk Sea coast, which was especially intensive in the 18th century, narrowed the territory of the sedentary Koryaks. While the coastal Koryaks may be seen as the direct heirs of the most ancient neolithic culture of northern Kamchatka and the Okhotsk Sea coast, the problem of the origin of the reindeer-breeding Koryaks—the Chavchuvens—is unclear. Some investigators consider them as the descendants of coastal Koryaks, who developed reindeer-breeding under the influence of their neighbors, the Evens. The question of the dates and manner of the spread of reindeer-breeding among the Koryaks requires further study.

The oral folklore of the peoples of the Far Northeast attests to the close relations between Koryaks and their neighbors—the Chukchi, Evens, Yukagirs and Itel'mens. These relations were expressed, on the one hand, in intertribal barter, and on the other, in armed conflicts. Numerous Koryak and Chukchi legends relate that the northern neighbors of the Koryaks—the Chukchi—attacked them, drove off their reindeer, and carried off men and women as captives. Koryak folklore also tells of hostile clashes between coastal and reindeer-breeding Koryaks, which occurred before the coming of the Russians.

22: Barrett-Hamilton and Jones--284 N-2 (1897) 1898 Koryak
116, 133, 136

"On our right lay Karaginski island, its far lesser hills showing many more snow-patches than those of the mainland, and in the distance bearing a striking resemblance to Bering island, from which, however, it differs in being a good deal less mountainous.

Birds were numerous in the channel, and we noted a few terns, as well as gulls of more than one species. Red-necked phalaropes were very plentiful, as they are elsewhere in Kamchatka, and a fine adult albatross (Diomedea albatrus) rose from the water at our approach. Duck of several species were also in abundance."

22:Barrett-Hamilton and Jones--294 [2] N-2 (1897) 1898 Koryak
116, 136, 177, 291

"In dress they [the natives of Karaginski Island--Analyst] were far more primitive and simple than the Karaga people, and, with the exception of one or two very ancient peaked caps and handkerchiefs, did not possess any European clothing. With the foregoing exceptions, all wore roughly made skin caps of no particular shape, and constructed so as to cover the back of the neck. This, together with the fact that all carried gloves made of skin and slung on to their skin robe, or—with the knife and fire-bag—on to the belt, gave us an early intimation of the numbers of mosquitoes to be expected. Nor were we disappointed. Even the natives here, while speaking to us, were constantly brushing the mosquitoes off their hands and faces."

22:Barrett-Hamilton and Jones--299 N-2 (1897) 1898 Koryak
116, 136

"We were disappointed not to meet with any eagles on Karaginski island, as we had hoped to find the rare Haliætus hypoleucus of Ridgeway there. If eagles occur on Karaginski island, it can only be on the more precipitous eastern side of it, which we were unable to visit. Richardson's skua was here seen and shot as at Karaga, and a Lapland Bunting was also obtained. In other respects the birds seen or shot were the same as those of Karaga."